Health Impact Assessment of Kentucky's Child Care Assistance Program

2021

DEPARTMENT OF
PUBLIC HEALTH
AND WELLNESS

EXECUTIVE SUMMARY

Early childhood education and care (ECEC) serves as a foundation to the wellbeing of children and families across Kentucky. From children's earliest years, the education and support they receive during critical windows of development influence lifetime health outcomes. ECEC affects cognitive development, emotional and behavioral health, impulse control, and the skill of working with others. ECEC programs help meet a child's nutritional needs, and high-quality programs provide screening tools for vision, hearing, asthma, and developmental challenges.

The child care industry is critical not only for the health and wellbeing of children, but also for the parents and providers who benefit from employment-related health outcomes. Parents that can access child care are able to work to support the nutritional, housing, and health needs of their families. In turn, child care providers can support themselves and their own families with the same needs.

Legislation to expand support for Kentucky's Child Care Assistance Program (CCAP) is proposed for Kentucky's 2021 legislative session. HB 106 would raise eligibility for CCAP and public preschool from 160% to 200% of the federal poverty level (FPL). It would also require that the cabinet not implement an individual or a family co-payment requirement as a condition for an individual or a family to participate in the Child Care Assistance Program.

This HIA addresses the health impacts of well-funded early childhood education on children as well as on parents and child care providers. While the report informs HB 106, it also provides recommendations on additional measures that would further strengthen early childhood education and care in Kentucky.

Key Findings

Findings of the report include the following:

Children thrive through experiences in ECEC.

- ECEC can affect emotional and behavioral health by increasing emotional knowledge, understanding, and regulation.[1]

- ECEC can help promote health equity by reducing disparities in early language development, particularly for children that come from economically disadvantaged households.[2]

- ECEC can affect educational development. Quality early childhood education can lead to reductions in special education placement and grade retention as well as increases in high school graduation rates.[3]

- ECEC can help mitigate toxic stress experienced at home. Unmitigated, toxic stress can affect a child's behavior and inhibit self-efficacy, memory, language, and the ability to learn.[4]

- ECEC programs create economic returns. Research has observed that for every dollar invested in child care, there was a return of $5.00 in total benefits.[5]

Parents struggle with the costs of child care.

- Families with young children living at 100% to 199% of the poverty level devote 20% of monthly income to child care expenses, more than twice the share spent by families living above 200% of the poverty level.

- Employed, low earning single mothers with child care expenses spent more than one-third of their incomes on child care in 2005 and 2011.[6]

- The years that parents are raising young children are economically vulnerable, particularly when there is not adequate access to child care funding. Single women with young children are 15% more likely to experience living in poverty than single women without children.[7]

Child care increases employment opportunities and benefits for both parents and care providers.

- Employment improves mental health outcomes. Benefits include providing a sense of purpose, intellectual stimulation, and sometimes physical activity that can improve wellbeing.[8]

- Unemployed individuals are more likely to suffer from increased stress, high blood pressure, heart disease, heart attack, stroke, arthritis, and depression.[9] As income and wealth increase or decrease, so does health.[10]

The pandemic has increased challenges for child care.

- On average, enrollment in child care facilities is down by 67%. According to a National Association for the Education of Young Children (NAEYC) survey, approximately two out of five child care providers are certain that they will close permanently without additional public assistance.[11]

- Access to child care affects the mental health of parents. During the pandemic, a survey of parents conducted by this HIA indicated that 75% were experiencing some level of stress in their ability to manage care for their child.

"The COVID pandemic is letting everybody know how essential child care is."

- Child Care Provider

Recommendations

Recommendations to strengthen CCAP policy and reduce health disparities include the following.

Address reimbursement rates:

- As per recommendation of the Federal Department of Health and Human Services, set CCAP reimbursement rates at the 75th percentile of market rates. This means that parents have choices among 75% of child care providers in a community, and have access to higher quality care.

- Change Kentucky's child care funding model from a market rate survey approach to a cost modeling approach that would base subsidies on the actual cost of providing quality child care.

- To ensure child care can support our youngest children, essential workers, and economy and to avoid federal corrective action, Kentucky needs a $2 per child per day increase in child care.

- Base reimbursements on enrollment rather than attendance. While tuition-based students pay according to enrollment, reimbursements for CCAP-funded students are based on attendance. When children are unable to attend due to health concerns or other family matters, child care programs do not receive compensation for those days.

Expand eligibility:

- Once rates are increased, expand CCAP eligibility of family income from 160% FPL up to 200% FPL. Families with income below 200% FPL face challenges earning enough to provide food, housing, utilities, and health care.

Eliminate co-pays:

- Eliminate co-pays as a condition for an individual or a family to participate in CCAP. Child care providers often absorb this cost when parents are unable to pay.

HIA Advisors

- 4C Northern KY
- Child Care Advocates of Kentucky
- Eastern Kentucky Child Care Coalition
- EC LEARN
- Kentucky Youth Advocates
- Learning Grove
- Metro United Way
- OVEC's Head Start/Early Head Start programs in Jefferson County
- The Prichard Committee

Survey Partners

- Appalachian Early Childhood Network
- Child Care Advocates of Kentucky
- Community Coordinated Child Care (4-C), Louisville
- EC LEARN
- Kentucky Youth Advocates
- Learning Grove
- Metro United Way
- Prichard Committee for Academic Excellence
- United Way of Greater Cincinnati
- United Way of Kentucky

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INTRODUCTION

Early childhood education and care (ECEC) plays an important role in the health and development of Kentucky's children. Across a spectrum of research, early childhood education is associated with improvements in cognitive, emotional, and physical development. In ECEC programs, children learn how to relate to one another and resolve conflict. These skills have lifelong influence. ECEC is associated with improved access to nutrition as well as screening for health measures such as vision, hearing, and asthma.

Interventions to support the child care industry are critical not only for the health and wellbeing of children, but also for the parents and providers who benefit from employment-related health outcomes. Parents who can access child care are able to work to support the nutritional, housing, and health needs of their families. Studies have suggested that access to affordable child care also supports parents seeking additional education and training, which contributes to higher lifetime earnings and greater family success.[12] In turn, child care providers can support themselves and their own families with the same needs.

Sufficient funding for ECEC has a strong correlation with high quality care. When programs are underfunded, they lack the capacity to retain certified staff and provide sufficient learning materials. When funding is sustainable, ratios of child care provider to class size are higher, teachers receive more training, salaries are increased, support from specialists is more available, and children have more resources for educational development.

Despite the value of ECEC, there is concern that the child care industry is in distress. Struggling even prior to March 2020, ECEC faced major disruptions with the onset of the COVID-19 pandemic. During the pandemic, an estimated 13% of parents across the US made the decision to leave the workplace or reduce their hours due to a lack of child care. For those that did lose their jobs, poverty has become a threat. Researchers estimate that poverty rates for children could increase by 53% due to the pandemic.[13]

ECEC is broadly defined as any type of educational program that serves children in their preschool years, before they are old enough to enter kindergarten.[14,15] Based on the provisions of CCAP funding, child care providers can be based at institutions, but this designation can also include family members who provide in-home

Kentucky's Child Care Funding

Kentucky's Child Care Assistance Program (CCAP) provides financial support to help families pay for child care. The program currently assists 26,450 infants, toddlers, and children representing 16,398 families.[16] In addition to aiding families, the program also strengthens the state's child care industry by increasing enrollment. The framework does, however, have patterns that make the assistance program unsustainable.

Kentucky's CCAP funding model follows a market-based survey system in which reimbursements are determined by the current going rate for child care. In Kentucky, CCAP funding falls at the 40th percentile of standard child care prices. The Federal Department for Health and Human Services recommends that in order to increase equity in parent choice of child care options, states should increase this number to 75%.

Critically, a market-based model often does not actually include the true cost of care and only reflects what parents are willing and able to pay. A cost modeling approach bases subsidies on the actual cost of providing quality child care. States that are using a cost model estimation approach or a hybrid that also factors in market costs include Alaska, Arkansas, Maryland (in development), and the District of Columbia.[17]

Currently, the CCAP reimbursement rate paid to participating child care providers is considered below the true cost of care.[18] This results in centers being forced to ask more from tuition-based-students to cover the costs not covered by CCAP reimbursements. Providers may also have to limit the number of CCAP-eligible seats in their centers, decline to participate in the program, and/or close their doors after operating with margins that are not sustainable.

Figure 1: Cost of Preschool Quality[19]

Child Care Assistance Program - CCAP	Current Subsidy Per-Child – Weighted Average	Recommended – Lowest to highest Quality (2017 Cost of Quality Study)
Infants/Toddlers	$26 Per Day	$31-56 Per Day
3-4-Year-Olds	$23 Per Day	$19-35 Per Day

> *Sufficient funding for ECEC means that ratios of child care provider to class size are effective, teachers receive more training, salaries and benefits meet a living wage, support from specialists is more available, and children have more resources for educational development.*

Participants in the CCAP program feel there is an imbalance between government funding and required parental contributions. Parents qualifying for CCAP have financial need. They may, however, have to contribute a co-pay relative to income. According to interviews with parents and child care providers through this HIA, some parents find this co-pay beyond the capacity of their household budgets. In turn, child care providers absorb the costs that the parents cannot pay. This pay structure leaves ECEC teachers receiving approximately 60% of the incomes provided to kindergarten teachers and bearing the burden of the expense of care.[20]

CCAP is only eligible to families making below 160% of the Federal Poverty Level (FPL), allowing earnings up to 200% FPL at redetermination. Redetermination is the stage at which it is decided whether a parent or care giver is still eligible for CCAP funds according to employment status and income. However, providers cannot accommodate an eligibility increase without a preceding increase in CCAP funds.

CCAP reimbursement to providers have historically been based on attendance rather than enrollment, the method of payment for tuition-funded students. However, during the

first part of the pandemic, CCAP funding was based on enrollment, in recognition that this is a much more sustainable process for the childcare industry. This pattern of funding ended in October 2020, at which point the model returned to one based on attendance. As the pandemic continues, families still may not be able to attend every day, especially if their household is impacted by a case of COVID-19, creating a financial gap for child care centers.

Previous adjustments to CCAP legislation have placed more emphasis on support for parents. The system, however, has not recognized the challenges this has placed on providers. Providers must piece together a reimbursement rate provided by the state and, often, an overage to cover the expenses of care to make their businesses work. The pandemic has caused unstable attendance, which means providers that accept CCAP funding are unable to maintain sustainable operations. Child care centers that were navigating financial instability prior to the pandemic now feel they are at much greater risk of closing.

The public health crisis of COVID-19 has had a devastating effect on the child care industry. According to a survey by the National Association for the Education of Young Children (NAEYC), nearly half of child care providers closed their facilities during the COVID-19 shutdowns. While many providers have now re-opened with limited capacity, as of July 2020, 86% are serving significantly fewer children than they were prior to the pandemic. On average, enrollment is down by 67%. This survey also found that approximately two out of five respondents—and half of those who are minority-owned businesses—are certain that they will close permanently without additional public assistance.[21]

Providers were also asked about how they were managing financially under the conditions of the pandemic. Nearly half are living in households that are accessing public benefits. At the same time, these providers are continuing to take on debt (42%), spend down savings (39%), cut costs, and sacrifice incomes. Sixty percent work in programs that have tried to reduce their expenses through layoffs, furloughs, and/or pay cuts.[22]

Historically, economic downturns have led to reductions in state spending on ECEC programs. Nine years after the Great Recession of 2007-08, two thirds of states with public preschool programs still spent less on preschool than they did prior to the recession.[23] Avoiding short term cuts may help maintain long term support for ECEC.

As ECEC impacts the health and wellbeing of thousands of Kentuckians, there is value in assessing the current model of CCAP funding. Expanded support for ECEC addresses equity concerns, increases child care access for low wage earners, strengthens the educational growth and development of all children, and helps to build the financial resilience of child care businesses owned by people of color. Reviewing the gaps in CCAP's funding models, measures of eligibility, rates of reimbursement, and co-pays can improve the viability of an industry at risk of collapse. Such investments may ultimately improve the health and wellbeing of Kentucky's young children, their families, and their care providers.

“I’ve been through eight daycare centers. Each one would raise their price and I couldn’t afford it. Then I had to move along.”

-Parent

Proposed CCAP Legislation:

CCAP legislation proposed for Kentucky's 2020 legislative session includes the following.

HB106:

(1) Applicants for the Child Care Assistance Program operated by the cabinet utilizing federal funds under the Child Care and Development Fund, in accordance with 45 C.F.R. sec. 98.2, shall have gross income at or below two hundred percent (200%) of the federal poverty level to be eligible at application and at recertification. Income guidelines do not apply to cases approved by the Division of Protection and Permanency within the cabinet. This expansion of eligibility is estimated to cover an additional 23,000 children.[24]

(2) The cabinet shall not implement an individual or a family co-payment requirement as a condition for an individual or a family to participate in the Child Care Assistance Program.

(3) The cabinet shall promulgate administrative regulations in accordance with KRS Chapter 13A to implement this section.[25]

HIA PROCESS SUMMARY

A Health Impact Assessment (HIA) is a process to inform decision-makers about the potential health impacts of proposed decisions, including those related to legislation, regulations, programs, plans, and projects in diverse policy sectors. The National Research Council defines an HIA as "a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects."[26]

This summary of the HIA of Kentucky's Child Care Assistance Program follows the basic six-step process of health impact assessment methodology to inform policies. These steps are screening, scoping, assessment, recommendations, reporting, and monitoring and evaluation..

Screening includes determining a basic level of stakeholder interest, outlining potential health impacts of CCAP legislation, determining the time frame of the decision, and ensuring decision-making promotes and protects public health.

The **scoping** process establishes the breadth of potential health impacts associated with decision making around CCAP policies. Scoping includes determining the populations affected, geographic boundaries, sources of data, and assessment methods as well as addressing stakeholder engagement.

The **assessment** portion of the HIA evaluates the health impacts of CCAP policy. This assessment is composed of a literature review on health impacts of ECEC on children as well as the impacts of employment on adults. The assessment also includes interview responses from stakeholders as well as a summary of a survey addressing current child care concerns during the pandemic in Kentucky.

Recommendations inform decisions as they relate to the health impacts of child care funding and eligibility.

In the **reporting and dissemination** process, information is shared with key stakeholders including Kentucky's legislators, child care advocates, chambers of commerce, health providers, and the general public.

The **monitoring and evaluation** plan lays out a framework for assessment of each stage of the HIA. There are three types of evaluation in HIA: 1) process evaluation gauges the HIA's quality according to established standards and the original plan for the HIA, 2) impact evaluation assesses the HIA's impact on decision-making and its success according to the objectives established during scoping, and 3) outcome evaluation assesses changes in health status and health determinants as the decision is implemented. Monitoring tracks indicators that can be used to inform process, impact, and outcome evaluations. The monitoring and evaluation plan strengthens both the integrity of the project and the effectiveness of the HIA.

SCREENING

The screening process for the CCAP HIA identified key factors regarding existing conditions, historical impacts of CCAP policy, and the relevant effects of the COVID-19 pandemic. These were compared to the potential implications of increasing funding and eligibility.

Approximately 39.3% of Kentucky's children under the age of six live at or below 150% FPL; 50% of Kentucky's children under the age of six live at or below 200% FPL.[27] Kentucky's working families, particularly low wage earners, are often faced with tough choices between working and affording high quality child care. Working parents play a critical role in earning money to maintain the health and wellbeing of their families.

At the same time, Kentucky's child care workers earn some of the lowest wages available. In 2017, median wages for early educators ranged from $10.72 per hour (or $22,290 full-time per year) to $13.94 per hour (or $28,990 full-time per year). These rates put many child care workers below the federal poverty threshold for a family of four in 2017, which was $24,600.[28]

CCAP funding levels are not sufficient to maintain sustainable operations.[29] Child care facilities must increase prices for tuition-based students in order to cover the cost of those that utilize CCAP. Families that currently earn above 160% of the federal poverty level but below 200% FPL often cannot afford quality ECEC and are faced with the decision to stay home with their children or to work and spend a significant portion of their income on child care.

Louisville Metro Public Health and Wellness (LMPHW) determined that an HIA is warranted due to the significant impact that Kentucky's CCAP policy could have on the health and wellbeing of Kentucky's low wage earners, their children, and child care workers.

Tools used to conduct the HIA include staff time, data from the federal census, literature accessed through PubMed, and conversations with ECEC advocacy organizations. The HIA utilized the results of interviews with child care providers and parents as well as results of a survey conducted by child care advocates listed at the beginning of this report.

SCOPING

The HIA scoping process established the range of factors to consider as they relate to CCAP policies and public health. Scoping subjects included the populations affected, sources of data to address baseline health statistics as well as health impacts of ECEC, and employment for both parents and child care workers. The scope of the HIA was defined by employees of LMPHW with experience in early childhood education.

The goals of this HIA include:

- Identifying health outcomes in children associated with quality ECEC.
- Identifying health outcomes associated with employment for both child care workers and guardians who access ECEC through CCAP.
- Identifying health outcomes associated with closure of child care facilities on workers, children, and families.

The scope of the HIA addresses a range of social determinants of health that could be affected by a change in CCAP policy. As can be observed in Figure 2, indicators of health including education and employment (which regularly result from access to CCAP funding) lead to improved access to housing, nutrition, and health care. Safe, quality housing and nutrition lead to reduced stress, reductions in chronic disease, and healthier families. On the other hand, poverty, unstable housing, and poor nutrition are associated with increased stress, cardiac health concerns, increases in chronic disease, and a reduction in life expectancy.[30]

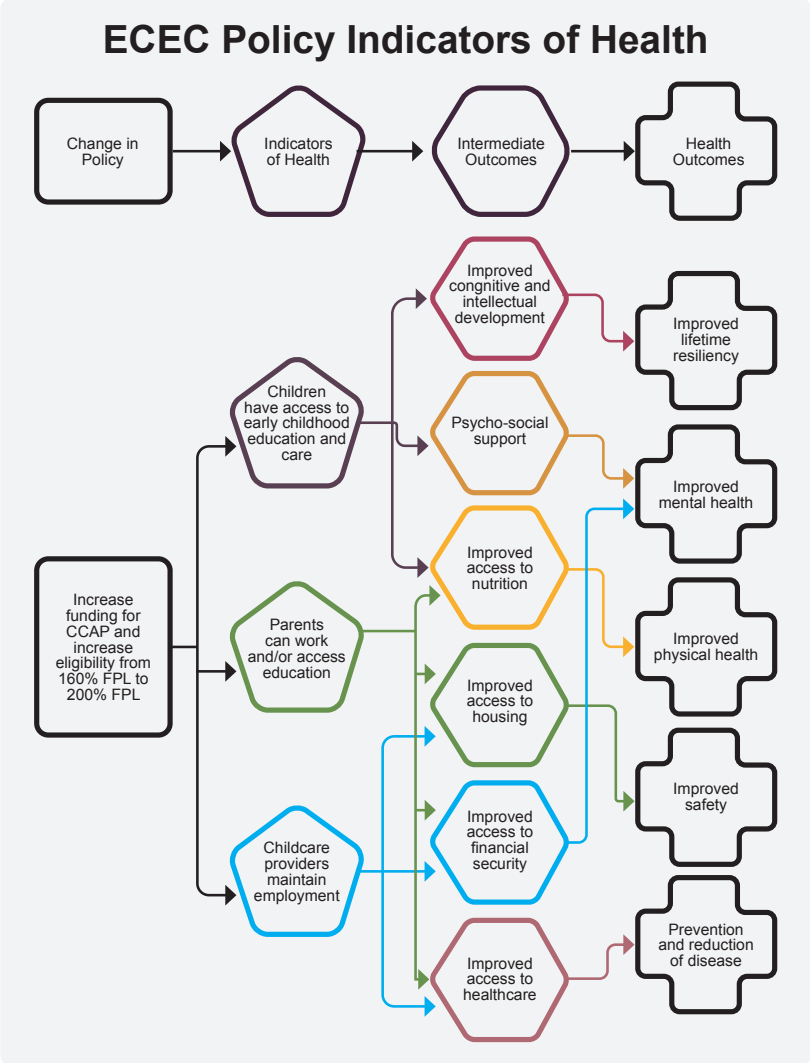

Figure 2: Indicators of Health

Addressing Health Equity within ECEC

Additional social determinants relating to the ECEC field include level of education, gender, and racism. A significant percentage of child care facilities are owned and operated by women of color. Instability in the ECEC industry therefore places a heavier burden on populations that already experience significant inequities in health. CCAP programming, by nature, is designed to support families with limited economic means. The benefits of expanding eligibility are three-fold: increasing the economic capacity of parents; strengthening the educational and emotional development of children; and allowing businesses, often owned by Black women and other women of color, to thrive. Equitable improvements to CCAP policies therefore require an assessment of those most impacted by the program.

Primary stakeholders associated with the CCAP HIA include:

- Child care providers
- Families eligible for CCAP funding (below 160% FPL)
- Families with small children at 160% to 200% FPL
- ECEC providers
- Non-profit organizations that support and promote ECEC.

According to Kentucky's Cabinet for Health and Human Services, CCAP eligibility includes the following:[31]

- Low-income families with a: working adult; a student enrolled full-time at a trade school, college, or university; or an adult participating in the SNAP Employment & Training (E&T) Program.
- KTAP recipients who need child care while they participate in Kentucky Works activities which include employment, education, job preparation activities and job search, and other activities designed to assist the family to attain self-sufficiency.
- Families determined by the Division of Protection and Permanency/Kinship Programs as needing child care to alleviate safety issues in their home.
- Teen parents attending high school or GED Classes.

RESEARCH QUESTIONS

The following research questions were developed to assess the impacts of ECEC on the health and wellbeing of children, parents, and care providers.

- **For children, what health outcomes are associated with early childhood development and:**
  - **Physical health?**
  - **Cognitive development?**
  - **Emotional health?**
  - **Educational development?**
  - **Lifetime health?**
- **For parents, what health outcomes result from CCAP eligibility:**
  - **As relating to employment?**
  - **As relating to education?**
- **For child care workers, what health outcomes are the result of sustained and sufficiently-funded employment?**
- **What impact does the child care industry have on the economy?**

ASSESSMENT

The HIA of CCAP funding assessed health impacts through a review of extant literature, new interviews, an original survey, and a review of available statistical data. A literature review summarized existing research on the health impacts of early childhood education and care. Interviews conducted with child care providers as well as families who utilize CCAP funding produced qualitative data and reflections on personal experiences. A survey coordinated by a team of ECEC advocates gathered information from parents who utilize child care and the impact that the COVID-19 pandemic has had on use of this care. Statistics gathered from the US Census, KYSTATS, and County Health Rankings established a baseline of Kentucky's current health and economic status.

Kentucky's Health Statistics

Poverty

Kentucky ranks 47th in the nation for childhood poverty.[32] An estimated 50% of Kentucky's children at or under the age of 6 are living below 200% of the poverty level.[33] In Kentucky, rates for children living in poverty differ by location and range from 5% to 48% across Kentucky counties. Rates for children living in poverty also differ among racial and ethnic groups. In Kentucky, 21% of White children, 38% of Hispanic children, and 42% of Black children live in poverty.[34]

Education

Kentucky ranks 27th in the US for education.[35] Indicators that inform this rank include measures on those not attending ECEC(57%), 4th graders not achieving proficiency in reading (65%), 8th graders not achieving proficiency in math (71%), and the number of high school students not graduating on time (10%). For preschoolers, this number has not changed in the last 10 years. At the same time 4th grade reading proficiency has gotten worse. Only math proficiency has improved by two percentage points from 73% to 71%.

Employment:

Kentucky ranks 42nd in the nation for unemployment.[36] As of October 2020, Kentucky's unemployment rate was at 7.4%.[37] Employment recovery from the pandemic has not occurred at equal rates across Kentucky's income levels. As of September 2020, for those in the top quartile who make $60,000 and higher, employment numbers returned to pre-pandemic levels with an additional 0.5% expansion. Employment numbers have not returned to normal for all other quartiles. For those in the bottom quartile who make $27,000 or less, employment numbers have dropped 13.5%.

Low-wage earners often have very little savings to buffer against economic hardships. According to census data, 32% of households have reported difficulty covering usual household expenses like food, rent or mortgage, car payments, medical expenses, and student loans.[38]

Survey Results:

A survey conducted by a coalition of Kentucky-based child care advocates[36] in November and December of 2020 identified a range of concerns related to the pandemic's effect on child care. Navigating care for children has increased stress and placed financial strain on families. Some have chosen to cut back on basic needs such as food and medicine in order to stretch family budgets.

In terms of stress, at least 78% of respondents felt they had some level of stress around their child care arrangements. As many as 26% felt very stressed or extremely stressed.

In terms of financial capacity:

- Almost 46% of respondents said that, since March 2020, someone in their family had to quit a job, not take a job, or significantly modify a job because of problems with child care.
- In order to afford child care expenses, 25% of respondents said that they reduced their spending on essential needs such as groceries, transportation, and medication. Approximately 14% of respondents said that they delayed health care needs for their children such as yearly checkups and dental visits.
- When it came to work modifications, 73% had to take some measures to ensure children were cared for, including reducing work hours, changing to a job with more flexible working hours, or quitting work to stay home with a child.

The greatest concerns for parents of children without ECEC were focused on children missing out on educational opportunities and forgetting what they've learned. Parents were also concerned that their children were missing crucial social interactions.

Families and child care providers are seeking support. Approximately 92% of respondents felt that the state and federal government should invest more money to support child care programs in meeting the new requirements related to the COVID-19 pandemic, which include social distancing, and smaller class sizes.

Interview responses

Interviews conducted by LMPHW staff of parents and child care providers offered feedback on elements of CCAP. One burden identified by many parents and providers is the low rate at which CCAP reimburses child care costs. “I just really wish that there was truly equal pay for all areas of Kentucky. The West end (of Louisville) providers do more than teach from 6-6. We are counselors, doctors, stepmoms, police, friend and [wear] many more hats outside of 6PM. It used to drain me when my phone rang at midnight because they need me to open at 5AM because they had a situation. We all work in the same field and should be paid as such.”

When parents cannot afford to pay for child care costs that are not covered by CCAP, many providers feel compelled to take a financial hit in order to maintain care for their students. “CCAP helps a lot of families. It helps moms better themselves. My parents, however, still struggle to pay for the co-pays.”

Other responses illustrated the disadvantages and volatility of administering attendance based CCAP funding to child care providers during the pandemic. “Because it is based on attendance, it hurts me. We need more flexibility with COVID-19 because of quarantine/isolation. I do not allow any children showing symptoms or waiting for test results back into the facility. I do not want to give up their spot, and they do not want to lose their spot, but it is affecting my income.”

The few months of the pandemic that did provide enrollment-based subsidies did not go unnoticed. "During the month of March and until October, we were paid based on enrollment and not on attendance," said one Louisville-based provider. "This really helped us keep our staff on the payroll and helped with other bills." When reimbursements for funding are distributed consistently, providers have one less barrier to maintaining their centers and paying their staff.

Other themes of interview responses included the following:
A reduction in the number of students can mean lay-offs.

- "I had one employee, but I have not been able to bring them back due to losing two children in October."

Less learning and development time is available when sanitation is increased with no increase (and sometimes decreases) in staff.

- "Financially, I am trying to make sure that I have the proper sanitation and cleaning equipment. More money goes toward sanitation and cleaning equipment. It takes away from their learning time when I have to take more time to sanitize and clean."

- "I am caring for people's kids, and I want to make sure they are happy, and I am giving them 1000%. There is more stress now with having to make sure that their temperatures are in check, things are clean, and hearing where the children and parents have been. I don't understand why day cares are not closed if schools are closed. I have to put my life on the line to be able to eat and pay bills."

CCAP co-pays are not always affordable

> • "CCAP helps a lot of families. It helps moms better themselves. I get up at 5 AM to support my moms who have to go to work at 5:30. My parents, however, still struggle to pay for the co-pays. They've got to pay rent; they have to feed their children. We take a loss when families can't pay their co-pays. Somebody has to take the brunt."

Literature Review

The following literature review addresses the health impacts, both short- and long-term, of ECEC on children, parents, and providers. Categories of research for children include health equity, health screenings, social and emotional development, behavioral health, executive function and cognitive development, language development, food and nutrition, academic readiness, educational outcomes, toxic stress, and child abuse. Topics related to parents and providers focus primarily on the health benefits of employment, including the associated mental health outcomes. Due to its timely impact on ECEC programs, the review also covers health impacts related to the COVID-19 pandemic.

The report references research on programs such as Head Start, Early Head Start, the Perry Project, and the Carolina Abecedarian Project. Such programs received significantly more funding than the average ECEC program. While these investments are currently not within the capacity of CCAP's operations, the research provides a point of reference for what well-funded ECEC can look like.

Health Equity

Children in low-income and racial and racially diverse families often experience barriers that delay development by 3 years of age.[39] Research suggests that ECEC can help promote health equity by reducing these disparities.[40] A meta-analysis by Hahn and colleagues observed that when at-risk children were provided with early childhood education, they did better on standardized tests, were more likely to graduate from high school, and were less likely to be retained a grade or assigned to special education. A correlation was also found between preschool and a

reduction in criminal activity later in life. Those with preschool experience had fewer teen births, increases in emotional self-regulation, and increases in emotional development.[41]

A strong correlation has been observed between quality of care and developmental outcomes in children. Children who bear the burden of multiple risk factors, such as living in poverty and being raised by a single parent, are often the ones who access poor-quality programs.[42] Reducing inequities requires significant financial investments. Research by Magnuson and Waldfogel suggests that small, incremental changes in ECEC programs do little to close educational gaps between Black, White, and Hispanic children.[43] Only significant increases in Hispanic and Black children's enrollment in preschool have the potential to decrease school readiness gaps.

Children in low-earning families face a higher risk of not graduating from high school compared to their peers with higher incomes. A report by Hernandez and colleagues observed that 22% of children who lived in poverty at some point in their life did not graduate from high school. This is compared to 6% of those who had never been poor. If a child spent more than half of their life in poverty, the figure increased to 32%.[44]

Health Screenings

Early childhood education programs, particularly Head Start and Early Head Start, improve children's health through increased access to preventative care. Screenings for vision, hearing, and developmental delays increase the probability a child will receive appropriate treatment for related conditions.[45] Vaccination campaigns also help prevent the spread of communicable disease.[46] An evaluation of the Early Head Start program found that participants had slightly higher rates of immunizations and fewer hospitalizations for accidents or injuries than the control group, although both groups received high levels of health services.[47]

Social and Emotional Development

A strong correlation has been observed between ECEC and social and emotional development, an early childhood competence that influences long-term mental health and well-being. Blewitt and colleagues observed through a systematic review and meta-analysis that the impacts of ECEC on children ages 2 to 6 are particularly successful at increasing emotional knowledge, understanding, and regulation. This study also found that, while still at a low intensity, ECEC can effectively

increase social competence, emotional competence, behavioral self-regulation, and early learning outcomes while reducing behavioral and emotional difficulties.[48]

Research by Shala studied the relationship between a child's preschool social and emotional development and their academic success in primary school. Ninety-six school-aged children in grades 1-4 were assessed for their social and emotional development during their preschool years and then were assessed for academic achievement in two subjects. The results of the study demonstrated statistical significance in academic success for first, second and third grades. The social-emotional factors that showed the greatest impact on academic success in a series of regressions included interaction with the persons around; competency to experience, recognize, and express emotions properly; and the ability of self-regulate emotions.[49]

Studies on Multiple Outcomes: Behavioral Health, Language Development, and Emotional Development

ECEC can affect the development of children's behaviors. Using a randomized trial of 3,001 families in 17 Early Head Start programs, researchers evaluated cognitive, emotional, and behavioral characteristics of parent-child interactions of children who were Head Start participants. A regression-adjusted impact analysis demonstrated that the 3-year-old participants performed better than the control group of children in cognitive and language development, displayed higher emotional engagement of the parent and sustained attention with play objects, and exhibited less aggressive behavior. In addition, parents of children enrolled in Head Start programs were more emotionally supportive, provided more language and learning stimulation, read to

their children more, and spanked less. The authors found that these impacts were greater in Head Start programs with a mix of home-visiting and center-based services.[50]

Research by Vandel and colleagues studied the effects of non-relative child care (birth to 4 ½ years) to academic achievement and adolescent functioning at age 15. In a geographically and economically diverse group of 958 children, the authors found that higher-quality care predicted higher levels of pre-academic skills and language. Higher quality early child care also predicted youth reports of less externalizing behavior. More hours of non-relative care that was not necessarily high quality, however, predicted greater risk-taking and impulsivity at age 15. The authors concluded that improvements in child care quality in the moderate to high range may be needed to yield measurable long-term benefits in behavioral health outcomes.[51]

Research by Fernald and colleagues observed differences in language development related to socioeconomic status (SES). In a longitudinal study, English-learning infants were followed from 18 to 24 months using real-time measures of spoken language processing. Significant disparities in vocabulary and language processing efficiency were already evident at 18 months between infants from higher- and lower-SES families. By 24 months there was a 6-month gap between SES groups in processing skills critical to language development.[52] ECEC may play an important role in language development interventions.

Executive, Physical, and Cognitive Development support academic readiness

Executive function, which encompasses general cognitive processes associated with working memory, inhibitory control, and the flexible shifting of attention, develops rapidly in early childhood.[53] High-quality ECEC improves executive function in young children and can result in enhanced school readiness.[54] Research by Campbell and colleagues on the Abecedarian Project utilized a prospective randomized trial to determine the effects of early educational intervention on patterns of cognitive and academic development among low income and minority children. Cognitive test scores were collected for study participants between the ages of 3 and 21 years, and academic test scores were also used for those between 8 and 21 years old. Children that received full-time, high-quality, educational child care from infancy to age 5, on average, attained higher scores on both cognitive and academic tests, with moderate to large treatment effect sizes observed through age 21. Preschool cognitive gains had a significant impact on the development of reading and math skills. Intensive early childhood education can have long-lasting effects on cognitive and academic development.[55]

ECEC can lay the foundation to help reduce disparity in academic readiness and educational outcomes. Children who participate in high-quality preschool programs enter school better prepared and are less likely to repeat a grade or be referred to special education.[56] A meta-analysis by McCoy and colleagues observed a significant relationship between ECEC and reductions in special education placement, lower incidence of grade retention, and increases in high school graduation rates.[57]

Head Start programs as well as other early childhood intervention programs have been recognized for their significant impact on a child's educational success. Participation in a Head Start program leads to an increased probability that children graduate from high school, attend college, and receive a post-secondary degree, license, or certification.

Food and Nutrition

ECEC environments provide children with access to nutrition. When families with limited resources make food purchases that exclude a diverse range of fruits and vegetables,

children may not develop an interest in such foods. Willingness to try new nutritious foods, however, is important for physical development and the maintenance of a healthy BMI. Research suggests that sensory-based food education can increase a child's willingness to eat, knowledge of, and comfort with fruits and vegetables. A study by Kähkönen and colleagues found that when children were provided with sensory experiences and education on fruits and vegetables, they were much more likely to consume them later. The strongest improvements in consumption were associated with families that had lower levels of education. Nutrition education in ECEC environments can therefore play an important role in improving the health of children in low-income families.[58]

Toxic Stress

Research shows that early influences in a child's life affect learning capacities, adaptive behaviors, lifelong physical and mental health, and adult productivity.[59] When children experience unstable living environments, poverty, and a lack of essential needs, their bodies can have a physical response. Outcomes including increased heart rate, increased blood pressure, and the release of stress hormones, such as cortisol which can lead to obesity. All such responses can overload the physical systems, creating toxic stress. While these responses can be mitigated with the help of a supportive relationship such as a teacher, unmitigated toxic stress can affect a child's behavior as

well as inhibit self-efficacy, memory, language, and the ability to learn. When parents can provide for their families and have access to quality child care, they can help prevent early childhood experiences of toxic stress.[60,61]

Lifetime Health Outcomes

A growing body of research suggests that early childhood education can have a positive effect on mid- and long-term health outcomes. Carneiro and colleagues observed that participation in Head Start reduces the incidence of behavioral problems, health problems, and obesity of male children at ages 12 and 13. The study also found that it lowered depression and reduced engagement in criminal activities for young adults.[62] Research by Cambell and colleagues found that early childhood education can affect blood pressure and metabolic disease later in life. Researchers followed up to assess cardiovascular and metabolic diseases of participants in the Carolina Abecedarian Project in their 30s. Results found that disadvantaged children randomly assigned to treatment (access to ECEC) had significantly lower blood pressure in their mid-30s with systolic blood pressure among the control group at 143, while only 126 among the treated. One in four males in the control group was affected by metabolic syndrome, while none were in the treatment group.[63]

A study by Rossin-Slater and Wust examined the impact of targeted high-quality preschool over the life cycle and across generations. The study, utilizing administrative data from Denmark collected between 1933 and 1960, found lasting benefits of preschool at age 3 on increases in income (for men) at age 65 and increases in survival (for women) at 65. The impacts of access to high-quality preschool also affected the children of those who attended preschool. These individuals achieved higher educational attainment by the age of 25 compared to offspring of those who did not attend preschool.[64]

Research by Garcia and Heckman assessed the impacts of high-quality early childhood education on long term health. Researchers observed that the program mainly benefited males and significantly reduced the prevalence of heart disease, stroke, cancer, and mortality across the life cycle. For men, researchers estimated an average reduction of 3.8 disability-adjusted life years (DALYs). The reduction in DALYs was relatively small for

women. The gain in quality-adjusted life years was almost enough to offset all the costs associated with program implementation for males and half of program costs for women.[65]

The Perry Project, conducted from 1962-67, assessed the impact of access to high-quality preschool on at-risk children. One hundred and twenty-three preschool children with risk factors of failing in school were randomly divided into two groups. One group received no intervention, while the other group received high-quality preschool instruction. A longitudinal study of the Perry Preschool project found that at age 40, the participants who experienced the preschool program had fewer teenage pregnancies, were more likely to have graduated from high school, were more likely to hold a job and have higher earnings, committed fewer crimes, and owned their own home and car.[66]

Child care and Parental Access to Employment

For families with limited economic resources, child care spending can account for a significant portion of a family's income. Parents living at or below 200% of the poverty level face tough decisions whether to seek employment or stay home due to the barrier of child care costs.[67] Smith and colleagues found that in 2011, poor families with young children spent 34% of monthly income on child care expenses, just under four times the share spent by families living above 200% level of poverty. Families with young children living at 100 to 199% of poverty devoted 20% of monthly income to child care expenses, more than twice the share spent by families living above 200% of the poverty level. Employed, low earning single mothers with child care expenses spent more than one-third of their incomes on child care in 2005 and 2011.[68]

"Decisions are made by how much I'm earning. But you're not looking at what comes out of my paycheck. If I quit my job, I'm evicted. I don't want to depend on the government to raise my kids."

- Parent

Research shows that when parents receive child care subsidies, they experience higher rates of employment than similar families who do not receive subsidies.[69,70] Such subsidies mean that parents can participate in the workforce or further their education, measures that improve children's social and emotional wellbeing.[71] Access to subsidies also allows working families with low incomes to use their limited income to meet other basic needs.[72]

Employment is a strong indicator of health. Those with barriers to employment face gaps in resources for housing, access to healthy food, health care, and support for their family. The complexities of unemployment can take a physical toll on the body. Research shows a 54% increase in rates of self-reported poor or fair health for those who are unemployed. Unemployed individuals are more likely to suffer from increased stress, high blood pressure, heart disease, heart attack, stroke, arthritis, and depression.[73] As income and wealth increase or decrease, so does health.[74]

Employment improves mental health outcomes. Benefits include providing a sense of purpose, intellectual stimulation, and sometimes physical activity that can improve wellbeing.[75] Other aspects of employment that impact health include employee benefits like health insurance and paid sick leave. Health insurance can improve health outcomes through increased access to routine and preventive health care services, which can contribute to more timely diagnosis, reducing chronic illnesses, and premature death.[76]

Women in the Workplace

The years that parents are raising young children often lead to a significant drop in income. In a study by Traub and colleagues, families with a young child faced a drop in income by $14,850 with two adults in the household, an estimated 14% reduction in household income. For single mothers, the drop was even more significant at $16,610, or an average of 36% of household income. Single women with young children are also 15% more likely to live in poverty than single women without children. The years that parents are raising young children are economically vulnerable, and this is an even greater concern for those without access to child care funding.[77]

The pandemic introduced an additional imbalance to labor and child care within families. As a result of the shutdowns, many women reduced their hours to care for children and, in return, fewer women returned to the workforce compared to their male counterparts. Impacts of the pandemic on child care have largely been influenced by gender, couple status, and parental status. As a result of the shutdowns, coupled women were far less likely to return to the workplace than coupled men or single women. This division in gender roles may create serious long-term negative implications for female labor force participation.[78]

Women with school aged and younger children have also experienced higher levels of psychological stress.[79] While employment is an indicator of health, conditions where poor women have an unstable working environment and have trouble securing child care face an increase in psychological stress. Research by Jacobs and colleagues found that the benefits of working can be offset by the challenges of finding child care for young children. Moving women off government assistance to paid work would be more successful with more resources devoted to child care.[80]

Economics of the Child Care Industry

ECEC programs not only promote health equity but also create economic returns. Research by Ramon and colleagues found a positive social return on investment in ECEC for all types of ECEC programs. The overall median benefit-to-cost ratio from estimates of total benefits, based on all benefit components including earnings gains, was 4.19:1 (IQI = 2.62-8.60), indicating that for every dollar invested in the program, there was a return of $4.19 in total benefits.[81]

Estimates on the Perry Preschool program show a dramatic return on investment. A review of investments at 1992-dollar amounts found that a $12,356 investment in children over two years of preschool yielded $70,786 in total benefits by the time the child had reached the age of 27. K-12 expenditures saved on special education and services was $6,872. Adult earnings were increased by $14,498, and crime savings, eliminating the crime victim and public dollars that would have been spent on incarceration, was $49,044.[82]

Research by the US Chamber of Commerce found that common challenges in the child care industry, including breakdowns in care, affordability, or lack of access, contribute to parents postponing school and training programs, forgoing promotions because of schedule changes, and sometimes leaving the workforce altogether. In the four states studied (Idaho, Iowa, Mississippi, and Pennsylvania) these child care issues resulted in anywhere from $479 million to $3.47 billion in estimated annual losses for their economies, with specific direct and indirect impact to employers in those states. These losses were significant to families, employers, and states even when economies were strong, and unemployment was low.[83]

A 2018 survey by the Association of Washington Business found that 67% of employers reported that child care challenges caused absenteeism among their employees. The Eastern Washington University Institute for Public Policy and Economic Analysis found in 2019, Washington employers incurred costs of $2.08 billion related to employee turnover or missed work due to child care issues. Considering opportunity costs to employers for lost productivity and opportunity to reinvest funds, the study estimated that child care access and affordability issues cost the state's gross domestic product (GDP) about $6.5 billion in lost contributions.[84]

The baseline for center-based care is $1,230 for an infant and $760 per month for a preschooler.[85] Teaching in early care and education (ECE) programs, however, is one of the lowest-paid occupations in the United States. In 2017, median wages for early educators ranged from $10.72 per hour (or $22,290 full-time per year) to $13.94 per hour (or $28,990 full-time per year). These rates fall at poverty-level wages as the federal poverty threshold for a family of four in 2017 was $24,600.[86] An estimated 60 to 80 percent of program expenses at a child care facility are related to personnel costs. Current tuition rates are artificially low at the expense of teacher compensation.[87]

Health impacts related to the COVID-19 pandemic

Access to Child care

A survey conducted by Barnett and Jung addressed the drop in preschool participation as a result of the pandemic. At the time of the survey, preschool participation had fallen from 61% to just 8%. Seventy four percent of classrooms closed completely, and of those that remained open, 45% of students stopped attending. This massive reduction in preschool attendance affected every subgroup of society regardless of child and family background characteristics including race/ethnicity, parental education, and income.[88]

In a survey conducted by the National Institute of Early Childhood Education, children not in preschool or child care did not end up doing activities that help a child develop such as singing, playing outdoors, or doing math or science activities at the levels that they would have experienced in child care.[89]

Impacts of pandemic worsen children's mental health

Children have experienced increased rates of mental health concerns during the pandemic. Uncertainty around the future, fear for the health of family members, isolation, and a change in daily patterns have placed kids at risk for increased levels of anxiety and depression.[4]

Child abuse

Parental burnout is a chronic condition resulting from high levels of parenting-related stress resulting from insufficient resources to meet demands. Increased levels of stress are often a major predictor of physical abuse and neglect of children. With the spread of COVID-19 and employment and income at risk, the pandemic has created an unprecedented time of concern around child abuse. A lack of child care resources places parents in chronic stress as they seek care for their children in order to maintain employment.[90]

Nationally, child advocacy centers have seen 40,000 fewer children during the pandemic.[91] Data show a similar reduction in reports of child abuse across Kentucky. This is not because there have been fewer cases, but rather, because children have not been in child care or school where teachers can support them and report abuse.[92]

Equity in the Workplace

The pandemic has expanded gaps in equity. Black women have experienced significantly higher rates of job loss - 54% compared to 27% of White men. Women, particularly women of color, are also less likely to have a financial safety net due to greater job insecurity and lower average pay rates. Women are twice as likely as men to report being unable to afford necessities for more than a month if they were to lose a job, while Black women are three times as likely as White men to report this financial insecurity.[93] Women are also more likely to need child care because they do not have a potential caregiver in their family. While women comprise 45% of all working parents with young children, they represent 55% of those who depend on child care and schools to be able to work.[94]

RECOMMENDATIONS

Funding for high quality ECEC impacts the health and development of young children, their families, and child care providers. The child care workforce, largely compromised of people of color as well as low wage earners, cannot meet the demands of the job without compromises to income and benefits. Creating equity within the child care industry therefore requires sustainable investments that address the gaps within this system.

Recommendations to strengthen CCAP policy and reduce health disparities include the following:

Address reimbursement rates:

- As per recommendation of the Federal Department of Health and Human Services, set CCAP reimbursement rates at the 75th percentile of market rates. This means that parents have choices among 75% of child care providers in a community and can access higher quality care.

- Change Kentucky's child care funding model from a market rate survey approach to a cost modeling approach that would base subsidies on the actual cost of providing quality child care.

- To ensure child care can support our youngest children, essential workers, and economy and to avoid federal corrective action, Kentucky needs a $2 per child per day increase in child care.
- Base reimbursements on enrollment rather than attendance. While tuition-based students pay according to enrollment, reimbursements for CCAP-funded students are based on attendance. When children are unable to attend due to health concerns or other family matters, child care programs do not receive compensation for those days.

Expand eligibility:

- Once rates are increased, expand CCAP eligibility of family income from 160% FPL up to 200% FPL. Families with income below 200% FPL face challenges earning enough to provide food, housing, utilities, and health care.

Eliminate co-pays:

- Eliminate co-pays as a condition for an individual or a family to participate in CCAP. Child care providers often absorb this cost when parents are unable to pay.

DISCUSSION

ECEC plays an important role in the health and development of young children. Associations have been established between ECEC and language development, social and emotional health, cognitive development, nutrition, access to screenings, and school readiness. Long term health outcomes have been observed relating to increased employment, less cardiovascular disease, fewer teen pregnancies, and lower involvement with the criminal justice system.

Parents that have child care can work to support their families or attend school in order to advance their economic opportunities. At the same time, well-funded child care programs provide financial sustainability for child care workers. Income for both parents and child care workers plays an important role in reducing stress and providing housing, nutrition, and healthcare.

ECEC can play an important role in improving equity. Children coming from families with limited resources see fewer developmental delays with increased access to high quality ECEC. Child care providers, many of whom are people of color, can experience a higher quality of life when funds are sufficient to sustain their businesses. Eligibility for high quality ECEC can help level the playing field, strengthening educational outcomes for children of every race and economic background.

Sufficient funding for ECEC has a strong correlation with high quality care. When programs are underfunded, they lack the capacity to retain certified staff and provide sufficient learning materials. Addressing the gaps in CCAP's funding models, measures of eligibility, rates of reimbursement, and co-pays can improve the viability of an industry at risk of collapse. When funding is sustainable, ratios of child care provider to class size are more beneficial, teachers receive more training, salaries are increased, support from specialists is more available, parents can work, and children have the resources they need to thrive.

APPENDICES

Interview questions for Parents and Providers

P A R E N T S

- Do you utilize CCAP funds?
  - If yes, how has access to CCAP funds impacted your family's wellbeing?
  - If no, what prevented you from accessing the funds?
- What would you do for childcare if you did not have access to CCAP funds?
- Are there health screenings/services provided at your childcare center that you would not otherwise access?
- Is there anything you would change about the CCAP system?

Describe the impact of COVID-19 on your family.

- How has it affected your employment?
- How has it affected childcare?
- How has it affected your physical and mental health?

- What would be most helpful to support your family's childcare needs at this time?
- Is there anything else you would like us to know?

P R O V I D E R S

- Do any of your students use CCAP funding to receive childcare?
  - If no, why do you not accept CCAP funded students?
- What would be required to make the CCAP program successful?
- What would it take to make your childcare facility financially stable?
- What level of overage must you ask of other parents to meet that which is not met by CCAP reimbursements and co-pays?
- What health-based resources do you provide children through your facility? (screenings, nutritious meals and snacks, reminders for vaccinations, etc.)

Describe the impact of COVID-19 on your childcare facility.

- How has it affected you?
- How has it affected your employees?
- How has it affected the children you teach?
- How has it affected the families for which you provide services?

- How would you describe your stress level on most days?
- Is there anything else you would like us to know?

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